Climate Change and IMO Technical and Operational Measures for Reduction of Emissions of Greenhouse Gas from Ships

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EMISSIONS OF GHG FROM SHIPS

Emission of GHG from Ships

- Bunker fuels used in aviation and maritime sector contribute almost 10% of the global GHG emissions
- Shipping is estimated to have emitted 1,046 million tonnes of CO2 in 2007, which corresponds to 3.3% of the global emissions during 2007.
- International shipping is estimated to have emitted 870 million tonnes, or about 2.7% of the global emissions of CO2 in 2007
- By 2050, in the absence of policies, ship emissions may grow by 150% to 250% (compared to the emissions in 2007) as a result of the growth in shipping.
- The Second IMO GHG Study 2009, identifies a significant potential for reduction of GHG emissions through technical and operational measures. The Study estimates that, if implemented, these measures could increase efficiency and reduce the emissions rate by 25% to 75% below the current level.

1997 Kyoto Protocol and Reduction of GHG Emissions from Marine Bunker Fuels

- Article 2(2) of the Kyoto Protocol provides as follows:
  - The Parties included in Annex 1 shall pursue limitation or reduction of emissions of greenhouse gases not controlled by the Montreal Protocol from aviation and **marine bunker fuels**, **working through the** International Civil Aviation Organization and the **International Maritime Organization**, respectively

IMO AND CLIMATE CHANGE

International Law Relating to Vessel-Source and Atmospheric Marine Pollution Cont.

- The IMO had started working on shipping based air pollution as back as late 1980s.
- In 1997, Member States of the IMO adopted a new annex namely Annex VI to the MARPOL Convention for prevention of air pollution from ships. The Annex VI entered into force on May 19, 2005.
- Annex VI of the MARPOL- does not cover GHG emissions from marine bunker fuels.
- In the same conference, member states also adopted a resolution on CO2 emissions from ships. This resolution invited the Marine Environment Protection Committee (MEPC) to consider what CO2 reduction strategies might be feasible in light of the relationship between CO2 and other atmospheric and marine pollutants. The resolution also invited IMO, in cooperation with the UNFCCC, to undertake a study of CO2 emissions from ships for the purpose of establishing the amount and relative percentage of CO2 emissions from ships as part of the global inventory of CO2 emissions.

Negotiation in the IMO for a Binding Instrument for Reduction of GHG Emissions from Marine Bunker Fuels

- In 2000 the IMO undertook a comprehensive Study of Greenhouse Gas Emissions from Ships
- Following this study, GHG emissions from ships is one of the main issues in the agenda of the MEPC of the IMO.
- In December 2003, the IMO Assembly adopted the resolution A.963(23) on **IMO Policies and Practices Related to the Reduction of Greenhouse Gas Emissions from Ships**, which urged MEPC to identify and develop the mechanism(s) needed to achieve the limitation or reduction of GHG emissions from international shipping:
    - Technical,
    - Operational and
    - Market-based solutions

Three Legal Instruments

- Technical,
- Operational and
- Market-based solutions

TECHNICAL AND OPERATIONAL

Two Legal Issues

- **CBDR Principle**
- **IMO's Mandate and Competence**

CBDR Principle

- Some of the developing countries took a robust position that the market based mechanism must be based on the CBDR principle.
- China, Brazil, India, and Saudi Arabia
- According to China '[t]his principle should not only be reflected in the establishment of emission reduction targets for each country, but also in funding mechanisms and technical specifications. In implementing new technical specifications, developed countries should provide assistance to developing countries in the areas of technology, funding and capacity-building.'

CBDR Principle

- Whether it is foreign debt, international trade, biodiversity, or climate change, this perspective frequently dominates international negotiations. There is a need to ask whether this paradigm should be reconsidered or even rejected. Indeed, the dominance of North-South perspectives often result in historical debates which then diverts attention from the demand to deal with the problems that requires solution. The demand is not to reject the paradigm totally, but to rethink and refashion it in such a way that the historical baggage of the past is put aside and the paradigm becomes not an obstacle to devising a global regime on climate change but instead a facilitator for such a system

AGM La Viña

CBDR Principle

- Cullet identifies three forms of differentiated treatment:
  - The first type of differentiation refers to situations where treaties provide different obligations for different groups of states.
  - Secondly, differential treatment also takes the form of measures to facilitate implementation in states which do not have the capacity to implement specific commitments. This is premised on equity and also the desire to foster the realization of the results benefiting the whole international community such as in the global environmental problems.
  - Thirdly, while differential treatment is primarily a concept applying to inter-state relations, it is also relevant to the issue of broadening of the range of actors in international law and the role of non-state actors in addressing problems like climate change

CBDR Principle

- Article 207 of the UNCLOS “States, acting especially through competent international organizations or diplomatic conference, shall endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment *from land-based sources, taking into account characteristic regional features, the economic capacity of developing States and their need for economic development*

CBDR Principle

- Although the UNCLOS specifically recognised the CBDR principle in case of pollution from land based sources, it does not differentiate between the ships of developed and developing countries in articles 211 and 212 which deal with vessel-source marine pollution and marine pollution from or through the atmosphere.

CBDR and IMO

Article 1(b) of the IMO Convention

Encourage removal of discriminatory actions …. promote the availability of shipping without discrimination …… not be based on measures designed to restrict the freedom of shipping of all flags ….;

Distribution of the world fleet March 2008

ships above 400 GT

Flag States	Number of ships	GT	DW
Annex I	33.4%	26.1%	22.82%
Non-Annex I	66.6%)	73.9%	77.18%

CBDR Principle

- The CBDR is not an unrestricted concept. It has certain boundaries. Rajamani identifies three boundaries in differential treatment:
  - It should not detract from the overall object(s) and purpose(s) of the treaty.
  - It should recognize and respond to differences across pre-determined political and other categories.
  - It should cease to exist when the relevant differences cease to exist

IMO's Mandate and Competence for Formulation of International Regulation for Vessel-Source Marine Pollution

- The IMO's competence basically comes from UNCLOS and the IMO Convention not from the Kyoto Protocol
- According to the UNCLOS the IMO has a global mandate and competence for the protection of the marine environment from vessel-source pollution
- According to article 59 of the IMO Convention, the IMO "shall be brought into relationship with the United Nations in accordance with Article 57 of the Charter of the United Nations **as the specialized agency in the field of *shipping and the effect of shipping on the marine environment*.**
- The Organization, thus, had a global mandate and global competence on matters related to the protection of the environment from emissions caused by shipping and was not subordinated to any other UN body in that respect

EEDI and SEEMP

- In July 2011, MEPC 62 continued its consideration of making the developed technical and operational measures mandatory by adding a new chapter 4 on energy efficiency to MARPOL Annex VI – Regulations on the prevention of air pollution from ships.
- In this meeting the MEPC adopted technical measures for new ships and operational reduction measures for all ships, which are, consequently, the first ever mandatory global GHG reduction regime for an entire industry sector.
- The adopted measures add to MARPOL Annex VI a new Chapter 4 entitled “Regulations on energy efficiency for ships”, making mandatory
  - the Energy Efficiency Design Index (EEDI) for new ships, and
  - the Ship Energy Efficiency Plan (SEEMP) for all ships.
- The regulations apply to all ships over 400 gross tonnage and above and are expected to enter into force through the tacit acceptance procedure on 1 January 2013.

EEDI and SEEMP

- The adoption by IMO of mandatory reduction measures for all ships from 2013 and onwards will lead to significant emission reductions and also a striking cost saving for the shipping industry.
- By 2020, up to 200 million tonnes of annual CO2 reductions are estimated from the introduction of the EEDI for new ships and the SEEMP for all ships in operation, a figure that, by 2030, will increase to 420 million tonnes of CO2 annually.
- The reductions will in 2020 be between 10 and 17%, and by 2030 between 19 and 26% compared with business as usual.
- The annual fuel cost saving estimates states a staggering figure of $20 to 80 billion by 2020, and even more astonishing $90 – 310 billion by 2030.

Technical co-operation and transfer of technology

- The new chapter also includes a regulation on Promotion of technical co-operation and transfer of technology relating to the improvement of energy efficiency of ships, which requires Administrations, in co-operation with IMO and other international bodies, to promote and provide, as appropriate, support directly or through IMO to States, especially developing States, that request technical assistance.

Technical co-operation and transfer of technology

- It also requires the Administration of a Party to cooperate actively with other Parties, subject to its national laws, regulations and policies, to promote the development and transfer of technology and exchange of information to States, which request technical assistance, particularly developing States, in respect of the implementation of measures to fulfil the requirements of Chapter 4.

Vote

59 of the 64 Parties to MARPOL Annex VI were present and eligible to vote.

- **Yes:** 49 Parties: Antigua and Barbuda, Australia, Bahamas, Bangladesh, Belgium, Belize, Bulgaria, Canada, Cook Islands, Croatia, Cyprus, Denmark, Estonia, Finland, France, Germany, Ghana, Greece, Ireland, Italy, Japan, Kiribati, Latvia, Liberia, Lithuania, Luxembourg, Malaysia, Malta, Marshall Islands, Netherlands, Norway, Panama, Poland, Portugal, Republic of Korea, Romania, Russian Federation, Saint Kitts and Nevis, Samoa, Serbia, Singapore, Slovenia, Spain, Sweden, Tuvalu, Ukraine, United Kingdom, United States, Vanuatu
- **No:** 5 Parties: Brazil, Chile, China, Kuwait, Saudi Arabia
- **Abstain:** 2 Parties: Jamaica, Saint Vincent and the Grenadines
- **Not present in the room:** 3 Parties: Iran (Islamic Republic of), Kenya, Syrian Arab Republic

Vote Cont.

- The yes-voting countries represent (roughly 80%) of the world's merchant shipping tonnage flagged in developing or developed countries.
- Yes-voting countries represent all regions of the world –
  - both exporters and importers countries.
  - largest flag States.
  - most of the large ship building nations.
  - many of the main climate change victim countries.
- The yes-voting countries represent about 75% of carbon dioxide (CO2) emissions from international shipping.

Divergent Interests

- Annex 1 Country-
- Non-Annex one countries
- Developing countries
- Least Developed Countries
- Flag States
- Ship building nations.
- Sates having Bunker Business.
- Bunker oil exporting contraries
- Climate change victim countries.
- Both exporters and importers countries

Implementation: Challenges

- Implementation of Common but Differentiated Treatment Principle
- Strengthening International Technical and Financial Cooperation.
- IMO initiatives for international Technical and Financial Cooperation is not generally successful.

Challenges

- Different interests
- Different national policies for climate change
- Different challenges
- Different capability
- Impact on export
- Impact on import
- and ……

Opportunities

- R &D
- Reduction of emissions (climate change mitigation)
- Increased funding and transfer of technology
- Ship building industry
- And …..

MARKET-BASED MECHANISMS

Market-based Mechanisms

- The technical and operational measures will not be sufficient to satisfactorily reduce the amount of GHG emissions from international shipping in view of the growth projections of human population and world trade.
- Market-based mechanisms have also been considered and would serve two main purposes:
  - providing a fiscal incentive for the maritime industry to invest in more energy efficient manner
  - off-setting of growing ship emissions.

Proposals

- International Fund for GHG emissions from ships (GHG Fund) (Cyprus, Denmark, the Marshall Islands, Nigeria and IPTA (MEPC 60/4/8)):
- Leveraged Incentive Scheme (LIS) (Japan (MEPC 60/4/37))
- Port State Levy (Jamaica (MEPC 60/4/40)): Ship Efficiency and Credit Trading (SECT) (United Sates (MEPC 60/4/12))
- Vessel Efficiency System (VES) (World Shipping Council (MEPC 60/4/39)):
- Global Emission Trading System (ETS) for international shipping (Norway (MEPC 61/4/22)):
- Global Emissions Trading System (ETS) for international shipping (United Kingdom (MEPC 60/4/26))
- Emissions Trading System (ETS) for International Shipping (France (MEPC 60/4/41))
- Market-Based Instruments: a penalty on trade and development (Bahamas (MEPC 60/4/10))
- Rebate Mechanism (RM) for a market-based instrument for international shipping (IUCN (MEPC 60/4/55))

Towards a Market Based Instrument for Reduction of GHG Emissions from Marine Bunker Fuels

- CBDR.
- IMO's competence.
- Possible conflict with WTO Provisions.

Recent Development: MEPC 64- October 2012

- ‘The Committee considered document MEPC 64/5/9 (Brazil, China, India, Peru, Saudi Arabia and South Africa) emphasizing the importance of adopting decisions by consensus and the need to respect the principles and provisions of the UNFCCC, its Kyoto Protocol and the principle of CBDR. The co-sponsors consider that **priority should be given to the development of an ambitious MEPC resolution to ensure that financial, technological and capacity-building support from developed countries for the implementation of regulations on energy efficiency for ships by developing countries is provided**. The co-sponsors consider that all further decisions on MBMs must await the adoption of the resolution, and that future consideration of MBMs must fully take into account potential impacts of those measures on developing countries.’
- ‘Following a proposal by the Chairman, in view of time constraints for this item, and following **comments by some delegations on the urgent need to finalize the draft MEPC resolution on promotion of technical co-operation and transfer of technology** relating to the improvement of energy efficiency of ships, the Committee agreed to keep the documents presented in abeyance and postpone further debate on MBMs to MEPC 65.’

Recent Development: MEPC 65 - May 2013

- IMO MEPC Resolution on promotion of technical cooperation and transfer of technology relating to the improvement of energy efficiency of ships.

Thank you

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